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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,203	09/10/2003	Joy Sawyer Bloom	AD6930 US NA	5565

23906 7590 10/10/2006

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EXAMINER

WOODWARD, ANA LUCRECIA

ART UNIT PAPER NUMBER

1711

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/659,203

Applicant(s)

BLOOM, JOY SAWYER

Examiner

Ana L. Woodward

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on August 14, 2006
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 2-5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 6-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Claims 2-5 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on May 17, 2005.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 5,789,523 (George et al).

George et al disclose a polyimide composition with improved wear resistance and reduced coefficient of friction. The composition comprises from 70-99.9 weight percent of at least one polyimide and from 0.1-30 weight percent of at least one sheet silicate, such as mica, reading on the corresponding component presently claimed. The composition can also contain a blend of the polyimide with from about 45 to 79.9 weight percent of at least one other polymer which is melt processable selected from polyamide and polyester resin, reading on the presently claimed thermoplastic resin. Furthermore, the composition includes up to 60 weight percent other additives, fillers and dry lubricants. In particular, the incorporation of graphite, reading on the corresponding component presently claimed, into the composition can extend the range of its utility as a wear resistant material. Another beneficial additive is carbon fiber, reading on the

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corresponding component presently claimed, for the purpose of reducing coefficient of thermal expansion (column 3, line 66-column 4, line 8). Example 29 discloses a polyimide composition comprising 5 weight percent mica, 57 weight percent graphite and 5 weight percent carbon fiber. Said composition is governed by a coefficient of friction range of 0.06-0.13.

In essence, the example of George et al differs from the present claims in not expressly exemplifying a melt processable resin and in the high content of graphite used. With regard to the first difference, it is within the general disclosure of the reference to blend the polyimide resin with at least one melt processible polyester or polyamide. Accordingly, the further use of said melt processible resin for its expected additive effect would have been obvious to one having ordinary skill in the art. As to the graphite content, it is maintained that it would have been obvious to one having ordinary skill in the art to have employed the graphite in lower contents falling within the scope of the present claims because the additive can be used in an amount of up to about 60 weight percent based upon the total weight of the composition. In this regard, notice is made of the lower graphite contents used in examples 21 and 22. Accordingly, absent evidence of unusual or unexpected results, no criticality can be seen in applicants' claimed graphite content.

4. Claims 1, 7-9, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 5,294,654 (Hellstern-Burnell et al)).

Hellstern-Burnell et al disclose compositions comprising polyphenylene ether-based component, reading on the presently claimed thermoplastic resin, glass fibers, inorganic nonfibrous agents such as mica, reading on the presently claimed corresponding component, and carbon fibers or metal-coated graphite fibers, reading on the presently claimed corresponding

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components. The mica is generally in the range of about 3% by weight by weight to about 12% by weight, based on the weight of the entire composition. The carbon fibers and metal-coated graphite fibers are present in the range of about 5% by weight to about 15% by weight, based on the weight of the entire composition.

In essence, the disclosure of the reference differs from the present claims in not expressly exemplifying the use of the metal-coated graphite fibers. It is maintained that it would have been obvious to one having ordinary skill in the art to have used a combination of carbon fibers and metal-coated graphite fibers for their expected additive effect as carbon-based materials. This is because the reference teaches these materials as alternative carbon-based materials and as such, it would have been obvious to one having ordinary skill in the art to use them in combination for the very same purpose. Accordingly, absent evidence of unusual or unexpected results for using these materials in combination, no patentability can be seen in the claimed subject matter.

5. Claims 1 and 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 5,844,036 (Hughes).

Hughes discloses compositions comprising a polyaryletherketone matrix, reading on the presently claimed thermoplastic resin, and at least two types of fillers. The first filler is a reinforcing fiber filler, which provides high strength and stiffness, such as carbon fiber, reading on the presently claimed corresponding component. The second filler is a non-thermoplastic immobilizing filler, which provides resistance to high temperature distortion, such as mica, reading on the presently claimed corresponding component. The composition can also contain a third filler type to confer lubrication, wear resistance properties, etc. such as graphite. Table 1 provides various formulations containing combinations of fillers, e.g., examples G and H.

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In essence, the disclosure of the reference differs from the present claims in not expressly exemplifying the fillers carbon fiber, mica and graphite in combination. Said combination, however, is deemed to be within the general purview of the reference invention and thus obvious to one having ordinary skill in the art. For example, it would be obvious to one having ordinary skill in the art to have substituted the calcium terephthalate powdered filler of examples G and H with mica as per these materials being alternatives as the immobilizing filler component (see, e.g., claim 14). Accordingly, absent evidence of unusual or unexpected results for using mica in place of the exemplified calcium terephthalate powdered filler, no patentability can be seen in the claimed subject matter.

Response to Amendment

6. Applicant's arguments filed August 14, 2006 have been fully considered and are effective in overcoming the previous rejection based upon Hirose.

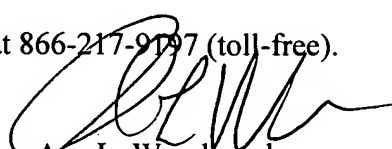
Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana L. Woodward whose telephone number is (571) 272-1082. The examiner can normally be reached on Monday-Friday (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ana L. Woodward
Primary Examiner
Art Unit 1711

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